Practices and Technologies Designed to Protect Bears and Foxes

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NOTE – THE FOLLOWING IS A SUMMARY OF MR. SHIDELER'S PRESENTATION. A COMPLETE MANUSCRIPT OF HIS TALK HAS NOT YET BEEN MADE AVAILABLE.

I've been asked to talk about three different species – grizzly bear, polar bear, and foxes. A lot of people actually were surprised to learn that we do have grizzly bears this far north – in fact the North Slope is actually the farthest north distribution of grizzly bears in North America. Of course there are also polar bears, which a lot of people are also surprised to learn visit the oilfields. In fact Steve Taylor showed you the map of polar bear dens, showing that they actually den farther inland than that, up to 40 km inland in some places. They have been spotted recently 50 miles in from the coast, so most of the oil development, or areas that are looking at oil development, are potentially within both polar bear and grizzly bear ranges. I was also asked to talk about foxes - both arctic foxes and red foxes. However, most of my talk will deal with bears, especially the importance of food and garbage management, which also have direct relevance to foxes.

When you develop an oilfield, you not only potentially provide stable food sources for bears if you don't handle garbage properly, but you can also inadvertently create denning locations. This artificial habitat enhancement, especially for foxes, allows them to den in close proximity to that stable food source. How much effect this has on growth of fox populations is unknown. I'll show a series of slides that illustrates some of the things that we have done on the North Slope and how these actions have impacted bears and foxes.

First of all, don't intentionally provide food for bears, and I think that the industry has done a really good job about stopping the intentional feeding of bears in the oilfield. We've only really had a couple of cases in recent years where we suspect bears have been fed intentionally, but we couldn't confirm it. This isn't much of a problem these days primarily because regulations have changed prohibiting this, and industry has really emphasized the point.

The bigger problem is the unintentional provision of food for bears and fox. Here is an example where a bear walked onto the crew bus and got into about week's worth of lunch garbage that was on board in a plastic bag. Bears are really good at finding food, and in this case she just walked onto the crew bus to get the food. Dumpsters used to be a big problem on the Slope in terms of providing unintentional food sources for bear and fox. Within the past year, however, the existing oilfields have gone exclusively to a bear-proof and fox-proof dumpster system, and hopefully this will be a thing of the past.

The North Slope Borough landfill at Prudhoe has long been a problem, but the landfill is now being fenced. Garbage management operations have really changed over the years. I think we are still going to see bears and foxes getting into the landfill again this summer to a certain extent. But with the electric fences installed that are being installed,

hopefully this problem will also go away, so that these species will no longer have access to human food.

What we call “garbage bears”, or “food-conditioned bears” are bears that we know have gotten into garbage over the years. Many of these problem bears eventually are killed legally under “Defense of Life and Property” (DLP) circumstances. In almost all cases, these garbage bears have been weaned in the oil field where they were protected by firearm restrictions, left the oil field for some period of time. Eventually they wind up in one of the local villages, either Nuiqsut or Kaktovic, where they were shot by residents under DLP situations, or else they wander down the haul road and get shot by hunters. Recent estimates is that if not for these DLP kills, we would have about 28 garbage bears wandering around in the oil field, all food conditioned because they were the cubs of food-conditioned bears. This has been a real bad situation because we are creating the problem by providing an easy food source to the bears. We are now trying to break this cycle by eliminating the food source.

We have also recommend that the industry adopt a Bear Interaction Plan Program, which we started implementing in 1988 or 1989. This has been a voluntary program, but almost all of the companies that go through any kind of permit review process have adopted it. Primarily these Plans involve exploration activities, but some of the new production areas like Alpine and Bedami have prepared Bear Interaction Plans. These provide ways to design your site so that you can reduce bear problems. For example, recommendations are provided as to where and how facilities should be located to reduce areas where snow drifts accumulate, providing locations for bears to hide. This is even more important in the case of polar bears, as they are present year round. Basically, the Plans help you to design your facility to offer maximum visibility. Lighting is also an important consideration. Perhaps the key component, however, is training. Virtually all oilfield employees now go through both polar bear and grizzly bear training programs to alert them as to what they should or should not be doing and the possible consequences.

In terms of monitoring, ARCO, BP and the North Slope Borough have funded our grizzly bear project since 1991, and we also enlist Security personnel and others around the oil fields to look for bears with ear tags and to report when and where they see these tagged bears. There are also procedures that have been developed for off-site work. If you are going to send crews out, you are going to have water truck drivers and all sorts of other people out there during the exploration process as well as for the permanent facilities and for oilfield development in general.

I mentioned earlier, orientation of facilities is important, as is the implementation of physical barriers. Steve Taylor showed you slide of a typical facility that is elevated up off of the pad. This type of design may be great from an engineering standpoint, but it also provides potential places for bears can hang out. We recommend construction of some type of barrier such as skirting around the base of the building to keep animals from hiding beneath the building. This has to be done in a way that doesn’t result in creating drifts under the facilities, but it can be done. It is also important to construct doors and windows in a way that will reduce the possibility that bears can gain entry to the buildings.

Simple, common sense things like not placing a dumpster near a stairwell can be important. The bears quickly learn that the North Slope dumpsters are their target of

choice. If there is no barrier to the stairwell, the bear can literally walk up it. It is often easy to remove the dumpster so bears are not attracted to areas near where people are, and this is the type or recommendations we would make in a Bear Interaction Plan. If you are familiar with Prudhoe, the Central Gas Conditioning Plant there is a four-story building. One heavy mosquito day there was a female polar bear resting up on the little platform on the third story stairwell. Someone wanted to open the door from the inside, and couldn't figure out why the door wouldn't open. He looked out the window and saw the bear. At exploration facilities, barriers can be erected by simply running a chain link fence around the whole camp. If there is no attractant in the camp, this will be enough to keep grizzly or polar bears from hanging out there.

Waste management of many different types is still one of the main problems, and attractants can be lots of different things. They don't have to be things you normally think of as garbage, because bears are also attracted to things like sanitary wastes from cleaning up the rooms. These wastes should also be treated as garbage rather than as plain paper waste, and placed in bear-proof containers. Bears have been attracted to sewer gray water lines, and they have been known to actually go under buildings, tear up lines, and trace them back to the kitchen area. This is a problem primarily in the smaller camps, but can even occur in a major facility. Break room trash out in the shacks at some of the work sites is also a common problem. And finally, antifreeze and petroleum products can also be attractants to bears, and these materials may deadly to bears, just as can be to cats and dogs.

Once you have a bear problem, there are a number of different types of potential solutions. Some of these, such as structural changes, we have already talked about. But we also have to make some cultural changes. For a long time we have told people to take their garbage and put it in the nearest garbage bag instead of dropping it on the ground. Although in certain respects that may be a good idea, if the garbage bag eventually winds up in the back of a pickup truck instead of in a bear-proof container, you've just traded one problem for a potentially more serious one by creating a bear attractant. So we need to start reprogramming people to realize that there is really only one type of container where all the garbage goes - a bear-proof and fox-proof container.

Another issue involving bears that is not related to facilities and garbage management is the increased use of 3D seismic in exploration. One of the great things about winter exploration and winter construction, of course, is that you can reduce the impacts on a lot of tundra species. However, this is not necessarily a benefit to all species. What happens is you saturate an area with 3D seismic tests in the presence of denning polar bears or grizzly bears? We've actually had a couple of close calls resulting from disturbed bears. We have a radio-collared bear population, so we provide denning locations for the bears we know about to the industry, and they subsequently avoid these locations

What has happened with seismic exploration over the years is that we have taken a half-mile radius out of the pattern to avoid bear dens. With 3D seismic, when you take out a half-mile radius out, you lose data for a circle a mile across. So the seismic folks have asked for a variance where surface structures can be used to reduce impacts. As a result, we are now experimenting with a system where we alter the shape of the area. In one case, there was a den we were avoiding that was located on a pingo that was elevated maybe 20 or 30 feet above the tundra surface, which is a lot of elevation in this part of the North Slope. We concluded that disturbance on the back side of the pingo

would be less than that on the front side due to the topography. We avoided the front of the pingo, and made the exclusion area more elliptical.

A lot of times there is a single seismic sweep through an area, but in some cases these bears may be subjected to two or three seismic runs over a period of time. If you're familiar with the Kenai fatality that occurred recently during a 3-D seismic program, we concluded that the bear had had a lot of disturbance from repeated seismic activities before he came out and killed the unfortunate worker. This is something that I think we need to look at in future, especially when we move to new oil fields where we're not going to have collared bears. Fish and Wildlife Service, as you may have heard, is working on a system to detect polar bear dens using forward-looking infrared technology and habitat characterization. We're doing a similar thing using a different approach.